

**Fond du Lac Tribal and Community College
COURSE OUTLINE FORM**

Updated 9/23/14

Please return this form to the college vice president of academic affairs and the chairperson of the Academic Affairs and Standards Council (AASC)

1. Prepared by: _____

2. Date submitted: _____

3. Date approved: _____ Date revised 09/23/14, 9/28/22

4. Department/discipline: Biology

5. Department(s) endorsement(s): _____

(Signatures of the person(s) providing the endorsement are required.)

6. Course Title: Microbiology

Abbreviated course title (25 characters or less): _____

7. Course Designator: BIOL 8. Course Level: 1XXX 9. 2010

10. Number of Credits: Lecture 3 Lab 1

11. Control Number (on site) 72/24 Control Number (online) _____

12. Catalog/Course description:

An introduction to the basic characteristics of microorganisms and their beneficial and detrimental effects on their environment, including disease, epidemiology, and pollution. This study includes viruses, bacteria, fungi, algae, and protozoans. (Meets MnTC goal area 3) (Prerequisite: BIOL 1101 or consent of instructor)

13. Course prerequisite(s) or co-requisite(s): Accuplacer scores/ Other courses

Prerequisite(s): BIOL 1101 General Biology I or consent of instructor

Co-requisite:

14. **Course Materials** (Recommended course materials and resources. List all that apply, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers).

Course materials including a textbook will be selected by faculty based on relevance to the study of Environmental Science and course objectives.

15. **Course Content** (Provide an outline of major topics covered in course)

Lecture topics:

- Historical Foundations of Microbiology
- The Structure, Function, and Chemistry of Microbial Cells
- Laboratory Tools and Techniques
- Prokaryotic and Eukaryotic Cells
- Microbial Nutrition and Growth
- Microbial metabolism
- Microbial Genetics
- Microbial-Human Interactions

- Medically Important Microbial Groups

Lab topics to closely follow lecture material

16. Learning Goals, Outcomes, and Assessment

At FDLTCC we have 4 Competencies Across the Curriculum (CAC) areas. They are as follows:

- A. Information Literacy (the ability to use print and/or non-print tools effectively for the discovery, acquisition, and evaluation of information)
- B. Ability to Communicate (the ability to listen, read, comprehend, and/or deliver information in a variety of formats.)
- C. Problem Solving (the ability to conceptualize, apply, analyze, synthesize, and/or evaluate information to formulate and solve problems.)
- D. Culture (knowledge of Anishinaabe traditions and culture, knowledge of one's own traditions and culture, knowledge of others' traditions and cultures, culture of work, culture of academic disciplines and/or respect for global diversity.)

Course learning outcomes will fulfill the identified competencies.

Course Learning Outcomes:

Upon completion of this course, students will be able to:

1. Explain structure and function of prokaryotic cells and their parts. (B, C)
2. Explain how prokaryotic cells interact with each other, other organisms, and their environment. (B, C)
3. Demonstrate microscopic methods and techniques used for the observation, study and diagnosis of bacterial strains. (C)
4. Design and conduct research project using the scientific method. (A, B, C, D)
5. Describe structure and function of disease causing microbiota and parasites. (B, C)
6. Distinguish between fermentation, aerobic and anaerobic respiration as a means of producing chemical energy for a cell. (C)

17. **Minnesota Transfer Curriculum (MnTC):** If this course fulfills an MnTC goal area, state the goal area and list the goals and outcomes below:

See www.mntransfer.org

Goal Area(s): 3

Goal and Outcomes:

Goal 3: Natural Sciences